



Consumer and  
Corporate Affairs Canada

Consommation  
et Corporations Canada

(11) (A) No. 1 270 363

(45) ISSUED 900619

(52) CLASS 20-66

(51) INT. CL. <sup>4</sup> E04D 3/30, 3/363

(19) (CA) **CANADIAN PATENT** (12)

(54) Roof Board and Roof Structure

(72) Funaki, Motokatsu,  
Japan

(21) APPLICATION No. 514,387

(22) FILED 860722

(30) PRIORITY DATE (JP) Japan (162133/1985) 850724  
(JP) Japan (81086/1986) 860410

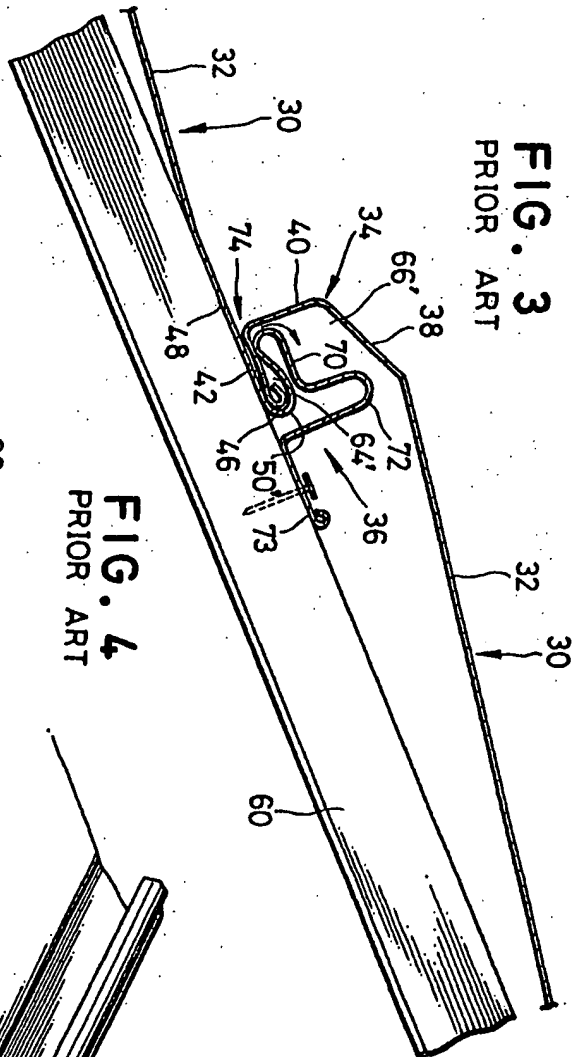
No. OF CLAIMS 12

**Canada**

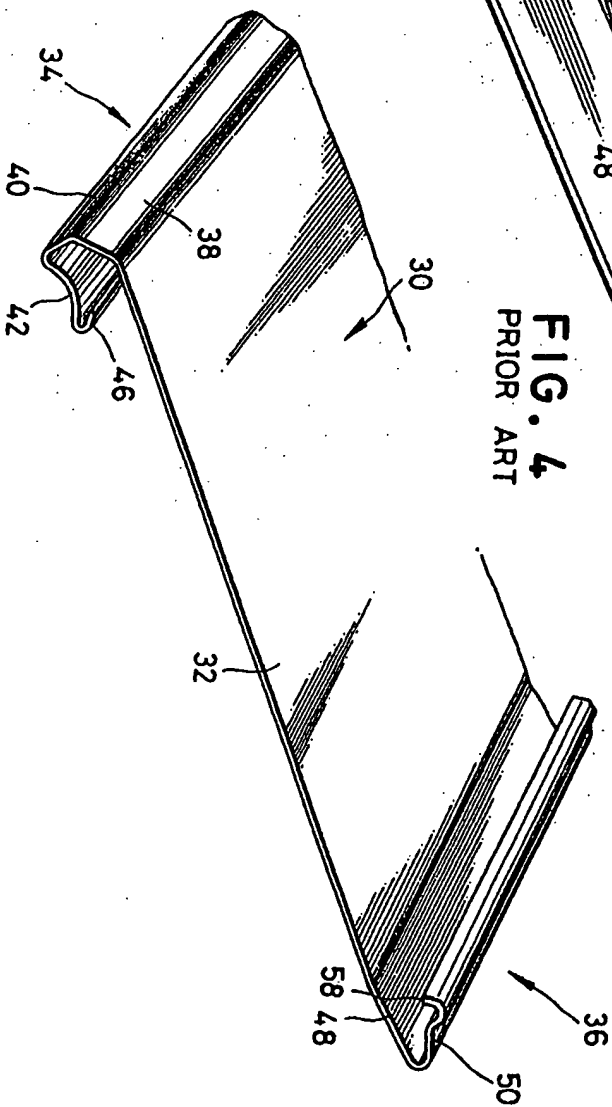
DISTRIBUTED BY THE PATENT OFFICE, OTTAWA  
CCA-274 (11-82)

Best Available Copy

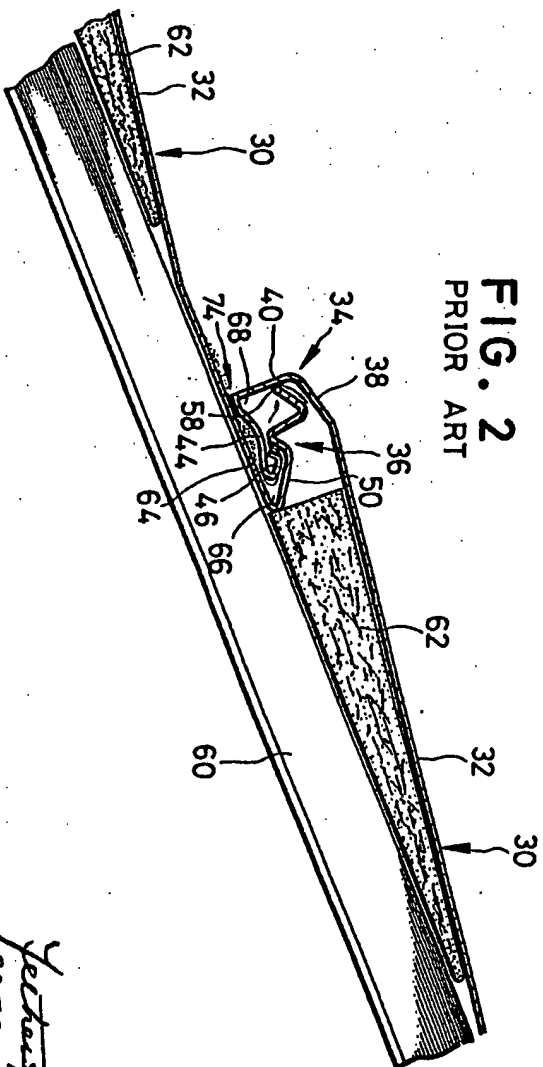
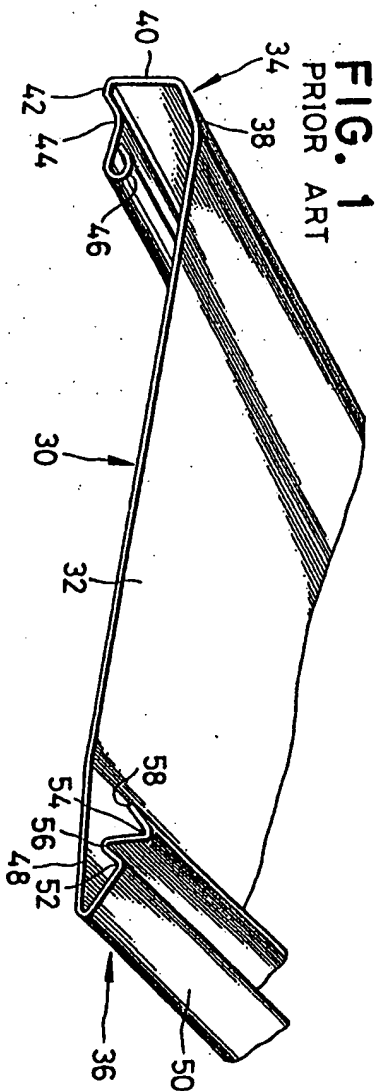
**FIG. 3**  
PRIOR ART



**FIG. 4**  
PRIOR ART



*Testington & Co.*  
PATENT AGENTS



*Yester & Co.*  
PATENT AGENTS

514387

ROOF STRUCTURE AND ROOF BOARD THEREFOR

ABSTRACT OF THE DISCLOSURE

5 A roof structure and a roof board therefor are disclosed which are capable of effectively preventing rainwater, sand, dust and the like from entering into the roof structure and exhibiting satisfied snow break. The roof structure is constructed to have a butt region between an eaves side connection of a ridge side roof board and a  
10 ridge side connection of an eaves side roof board formed at a position upwardly apart from a flat surface section of the eaves side roof board. The roof structure is constructed by connecting a plurality of the roof boards to one another through the eaves side and ridge side connections in turn  
15 with an upward incline from an eaves side to a ridge side. The eaves side connection has an upper front face section downwardly extending from one end of the flat surface section of the roof board and the ridge side connection has a lower front face section upwardly extending from the other  
20 end of the flat surface section, so that the connection between each adjacent two roof boards may be carried out by engaging the eaves side connection of the ridge side roof board with the ridge side connection of the eaves side roof board in a manner to abut a lower end of the upper front  
25 face section of the ridge side roof board against an upper end of the lower front face section of the eaves side roof board.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A roof board comprising:

a flat surface section, an eaves side connection formed at one end of said flat surface section, and a ridge side connection formed at the other end of said flat surface section, a plurality of said roof boards being adapted to be connected through said eaves side and ridge side connections to one another in order with an upward incline in the direction of from an eaves side to a ridge side to form a roof structure;

said eaves side connection being formed to have an upper front face section downwardly extending from said one end of said flat surface section, an inwardly extending section inwardly extending from a lower end of said upper front face section, and an engagement section formed at a distal end of said inwardly extending section;

said ridge side connection being formed to have a lower front face section upwardly extending from said the other end of said flat surface section, an outwardly extending section outwardly extending from an upper end of said lower front face section, and an envelope section formed at a distal end of said outwardly extending section;

the connection between each adjacent two of said roof boards being carried out above said ridge section by holding the engagement section of the ridge side one of said adjacent two roof boards in the envelope section of the eaves side one of said adjacent two roof boards and abutting the upper end of the lower front face section of said eaves side roof board against the eaves side connection of said ridge side roof board to form a butt region therebetween which is positioned upwardly apart from the flat surface section of said eaves side roof board and exposed to an exterior of said roof structure.

2. A roof board as defined in Claim 1, wherein said upper end of said lower front face section of said eaves side roof board is abutted against the lower end of the

upper front face section of said ridge side roof board.

3. A roof board as defined in Claim 2, wherein said upper front face section and said lower front face section each are formed to straightly extend from said flat surface section, so that said butt region may be laterally directed.

4. A roof board comprising:

a flat surface section, an eaves side connection formed at one end of said flat surface section, and a ridge side connection formed at the other end of said flat surface section, a plurality of said roof boards being adapted to be connected through said eaves side and ridge side connections to one another in order with an upward incline in the direction of from an eaves side to a ridge side to form a roof structure;

said eaves side connection being formed to have an upper front face section downwardly extending from said one end of said flat surface section, an inwardly extending section inwardly extending from a lower end of said upper front face section, and an engagement section formed at a distal end of said inwardly extending section;

said ridge side connection being formed to have a lower front face section upwardly extending from said the other end of said flat surface section, an outwardly extending section outwardly extending from an upper end of said lower front face section, and an envelope section formed at a distal end of said outwardly extending section;

the connection between each adjacent two of said roof boards being carried out above said ridge section by holding the engagement section of the ridge side one of said adjacent two roof boards in the envelope section of the eaves side one of said adjacent two roof boards and abutting the upper end of the lower front face section of said eaves side roof board against the lower end of the upper front face section of said ridge side roof board to form a butt region therebetween which is positioned upwardly apart from said flat surface section of said eaves side roof board and exposed to an exterior

of said roof structure.

5. A roof board comprising:

a flat surface section, an eaves side connection formed at one end of said flat surface section, and a ridge side connection formed at the other end of said flat surface section, a plurality of said roof boards being adapted to be connected through said eaves side and ridge side connections to one another in order with an upward incline in the direction of from an eaves side to a ridge side to form a roof structure;

said eaves side connection being formed to have an upper front face section downwardly extending from said one end of said flat surface section, an abutment section inwardly extending from a lower end of said upper front face section, and an engagement section formed at a distal end of said abutment section;

said ridge side connection being formed to have a lower front face section upwardly extending from said the other end of said flat surface section, an extension section outwardly extending from an upper end of said lower front face section, and an envelope section formed at a distal end of said outwardly extending section;

the connection between each adjacent two of said roof boards being carried out by holding the engagement section of the ridge side one of said adjacent two roof boards in the envelope section of the eaves side one of said adjacent two roof boards and abutting the upper end of the lower front face section of said eaves side roof board against a lower surface of the abutment section of said ridge side roof board in a manner to forwardly project the upper front face section of said ridge side roof board from the lower front face section of said eaves side roof board, so that a butt region may be formed between the ridge side connection of said eaves side roof board and the eaves side connection of said ridge side roof board which is positioned upwardly apart from the flat surface section of said eaves side roof board and exposed to an exterior of said roof structure.

6. A roof structure comprising:

a plurality of roof boards connected to one another in order with an upward incline in the direction of from an eaves side to a ridge side, said roof boards each comprising a flat surface section, an eaves side connection formed at one end of said flat surface section so as to be positioned below said flat surface section and a ridge side connection formed at the other end of said flat surface section so as to be positioned above said flat surface section;

said eaves side connection having an upper front surface section downwardly extending from said flat surface section, an inwardly extending section inwardly extending from a lower end of said upper front face section and an engagement section formed at a distal end of said inwardly extending section;

said ridge side connection having a lower front face section upwardly extending from said the other end of said flat surface section, an outwardly extending section outwardly extending from an upper end of said lower front face section, an envelope section formed by turning up a distal end of said outwardly extending section, and a mounted section upwardly extending from said envelope section;

the connection between each adjacent two of said roof boards being carried out above said ridge section in a manner to abut the upper end of the lower front face section of the eaves side one of said adjacent two roof boards against the eaves side connection of the ridge side one of said adjacent two roof boards to form a butt region between said eaves side roof board and said ridge side roof board which is positioned upwardly apart from the flat surface section of said eaves side roof board and exposed to an exterior of said roof structure.

7. A roof structure as defined in Claim 6, wherein said upper end of said lower front face section of said eaves side roof board is abutted against the lower end



of the upper front face section of said ridge side roof board.

8. A roof structure as defined in Claim 7, wherein said upper front face section and said lower front face section each are formed to straightly extend from said flat surface section, so that said butt region may be laterally directed.

9. A roof structure as defined in Claim 6, wherein said upper end of said lower front face section of said eaves side roof board is abutted against a lower surface of the inwardly extending section of said eaves side connection of said ridge side roof board.

10. A roof structure comprising:

a plurality of roof boards connected to one another in order with an upward incline in the direction of from an eaves side to a ridge side, said roof boards each comprising a flat surface section, an eaves side connection formed at one end of said flat surface section so as to be positioned below said flat surface section and a ridge side connection formed at the other end of said flat surface section so as to be positioned above said flat surface section;

said eaves side connection having an upper front surface section downwardly extending from said flat surface section, an inwardly extending section inwardly extending from a lower end of said upper front face section and an engagement section formed at a distal end of said inwardly extending section;

said ridge side connection having a lower front face section upwardly extending from said the other end of said flat surface section, an outwardly extending section outwardly extending from an upper end of said lower front face section, an envelope section formed by turning up a distal end of said outwardly extending section, and a mounted section upwardly extending from said envelope section;

the connection between each adjacent two of said roof boards being carried out in a manner to abut the

upper end of the lower front face section of the eaves side one of said adjacent two roof boards against the lower end of the lower front face section of the ridge side one of said adjacent two roof boards to form a butt region between said eaves side roof board and said ridge side roof board which is positioned upwardly apart from the flat surface section of said eaves side roof board and exposed to an exterior of said roof structure.

11. A roof structure comprising:

a plurality of roof boards connected to one another in order with an upward incline in the direction of from an eaves side to a ridge side, said roof boards each comprising a flat surface section, an eaves side connection formed at one end of said flat surface section so as to be positioned below said flat surface section and a ridge side connection formed at the other end of said flat surface section so as to be positioned above said flat surface section;

said eaves side connection having an upper front surface section downwardly extending from said flat surface section, an abutment section inwardly extending from a lower end of said upper front face section and an engagement section formed at a distal end of said inwardly extending section;

said ridge side connection having a lower front face section upwardly extending from said the other end of said flat surface section, an outwardly extending section outwardly extending from an upper end of said lower front face section, an envelope section formed by turning up a distal end of said outwardly extending section, and a mounted section upwardly extending from said envelope section.

the connection between each adjacent two of said roof boards being carried out above said ridge section by abutting the upper end of the lower front face section of the eaves side one of said adjacent two roof boards against a lower surface of the abutment section of the ridge side one of said adjacent two roof boards in a

manner to forwardly project the upper front face section of said ridge side roof board from said lower front face section of said eaves side roof board, so that a butt region may be formed between the ridge side connection of said eaves side roof board and the eaves side connection of said ridge side roof board which is positioned upwardly apart from the flat surface section of said eaves side roof board and exposed to an exterior of said roof structure.

12. A roof structure comprising:

a plurality of roof boards connected to one another in order with an upward incline in the direction of from an eaves side to a ridge side, said roof boards each comprising a flat surface section, an eaves side connection formed at one end of said flat surface section so as to be positioned below said flat surface section and a ridge side connection formed at the other end of said flat surface section so as to be positioned above said flat surface section;

said eaves side connection having an upper front surface section downwardly extending from said flat surface section, an abutment section inwardly extending from a lower end of said upper front face section and an engagement section formed at a distal end of said inwardly extending section;

said ridge side connection having a lower front face section upwardly extending from the other end of said flat surface section, an outwardly extending section outwardly extending from an upper end of said lower front face section, an envelope section formed by turning up a distal end of said outwardly extending section, and a mounted section formed at a distal end of said envelope section;

a backing plate arranged under each of said roof boards; and

a fixture formed with a base portion adapted to be fixed on a mounting base for said roof structure, a step portion for downwardly forcing an eaves side end

1270363

of said backing plate and supporting a ridge side end of said backing plate, and a holding portion for securely holding said mounted section of said roof board;

the connection between each adjacent two of said roof boards being carried out by positioning the eaves side one of said adjacent two roof boards on the backing plate therefor to press a ridge side end of said backing plate by the step portion of the fixture for said eaves side roof board and hold the mounted section of said eaves side roof board by the holding portion of said fixture, supporting an eaves side end of the backing plate for the ridge side one of said end of said adjacent two roof boards by said step portion of said fixture, fitting the eaves side connection of said ridge side roof board in the ridge side connection of said eaves side roof board in a manner to hold the engagement section of said ridge side roof board in the envelope section of said eaves side roof board and abutting the upper end of the lower front face section of said eaves side roof board against a lower surface of the abutment section of said ridge side roof board in a manner to forwardly project the upper front face section of said ridge side roof board from said lower front face section of said eaves side roof board.



**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ **BLACK BORDERS**
- ☒ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☒ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☒ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**